

I claim:

1. An LED light source, comprising:

a basic body formed with recess;

an LED disposed in said recess;

a filling of a transparent material embedding said LED and a converter substance in said transparent material for at least partially converting a wavelength of light emitted by said LED;

a lens in contact with said filling, said lens being prefabricated and having a definitively preformed concave underside and being placed on said material filling prior to a final curing of said material filling, whereby an upper side of said material filling enters into a form fit with said concave underside of said lens and has a convex surface formed by said underside of said lens.

2. The LED light source according to claim 1, wherein a volume of said filling is less than a free volume of said recess with said LED disposed therein.

3. The LED light source according to claim 1, wherein said convex surface of said filling and said underside of said lens

are formed to have a substantially constant distance from said LED.

4. The LED light source according to claim 1, wherein said LED has an active radiating area and said convex surface of said filling and said underside of said lens are formed at a substantially constant distance from a geometrical center point of said active radiating area of said LED.

5. The LED light source according to claim 1, wherein said LED is a blue light-emitting LED based on GaN and said converter substance is configured to convert light radiation in a blue spectral range into light radiation in a yellow spectral range.

6. The LED light source according to claim 1, wherein said LED is a UV-emitting LED and said converter substance converts UV light into a visible spectral range.

7. The LED light source according to claim 1, wherein a distance of said convex surface from said LED is set such that a degree of conversion along an optical path length of the light radiation is substantially 50%.

8. The LED light source according to claim 1, wherein said LED has an active radiating area and a distance of said convex

surface from a geometrical center point of said active radiating area is set such that a degree of conversion along an optical path length of the light radiation is substantially 50%.

9. The LED light source according to claim 1, wherein said LED is a surface-mounted component.

10. The LED light source according to claim 1, wherein said filling contains a resin material.

11. The LED light source according to claim 10, wherein said filling contains an epoxy resin.

12. The LED light source according to claim 1, wherein said basic body contains a thermoplastic material.

13. The LED light source according to claim 1, which further comprises:

a first leadframe carrying said LED at a first electrical contact area thereof;

a second leadframe connected to a second electrical contact area of said LED by a bond wire; and

wherein said basic body is produced by injection molding around said leadframes.

14. The LED light source according to claim 1, wherein said recess is defined by sloping and reflective side walls.

15. A method of producing an LED light source, which comprises the following steps:

forming a recess with a planar bottom face in a basic body;
mounting an LED on the bottom face;
filling the recess with a defined amount of a transparent material containing converter material;
providing a lens with a concave underside;
inserting the lens with the concave underside into the still liquid transparent material; and
curing the transparent material.

16. The method according to claim 15, wherein the filling step comprises filling the recess with a resin material.

17. An LED light source, comprising:

a basic body formed with recess;

an LED disposed in said recess;

a filling of a transparent material embedding said LED and a converter substance in said transparent material for at least partially converting a wavelength of light traveling through said filling, said filling having a convex upper surface defined by substantially equidistant points from said LED; and

a lens in contact with said filling and having a concave underside substantially complementary to said convex upper surface of said filling.